



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,654	03/22/2004	Akira Tsujimoto	CFA00078US	2599

7590 05/08/2006

Canon U.S.A. Inc.,
Intellectual Property Department
15975 Alton Parkway
Irvine, CA 92618-3731

EXAMINER

VO, ANH T N

ART UNIT	PAPER NUMBER
----------	--------------

2861

DATE MAILED: 05/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

H/A

Office Action Summary

Application No.

10/806,654

Applicant(s)

TSUJIMOTO, AKIRA

Examiner

Anh T.N. Vo

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-13 is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/18/2005</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The references cited on PTO 1449 have been considered.

Specification

The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

CLAIM REJECTIONS

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 and 8 are rejected under 35 USC 102 (b) as being anticipated by Inoue et al. (US Pat. 5,619,237).

Inoue et al. Disclose in Figures 1, 20 and 24-25 a replaceable ink tank comprising:

- A recording apparatus having a recording head (101) configured to discharge ink, said recording head (101) including an ink storage chamber storing ink therein and a plurality of ink receiving portions (unmarked ports are adjacent to element 165 of print head cartridge 101) in communication with said ink storage chamber (Figure 20);
- an ink cartridge (140) detachably attached to said recording apparatus, said ink cartridge including an ink container containing ink therein and a plurality of ink supplying portions (142bC, 142bM, 142bY) complementary to said plurality of ink receiving portions, said plurality of ink supplying portions being in communication with said ink container (Figures 20 and 25); said plurality of ink supplying portions (142bC, 142bM, 142bY) being adapted to receive said complementary plurality of ink receiving portions (unmarked ports are adjacent to element 165 of printhead cartridge 101) to facilitate supplying ink from said ink container to said ink storage chamber (Figures 20 and 24-25);
- said recording head (101) including a first positioning component (167a') adjacent to said plurality of ink receiving portions, and said ink cartridge (140) including a second positioning component (142e) adjacent to said plurality of ink supplying portions wherein said first and second positioning components are configured to engage each other so as to align said plurality of ink receiving portions relative to said plurality of ink supplying portions (Figures 20 and 24-25);
- wherein the first positioning component (167a') is disposed adjacent to a pair of the plurality of ink receiving portions (unmarked ports are adjacent to element 165 of printhead cartridge 101), and wherein the second positioning component (142e) is disposed adjacent to a complementary pair of the plurality of ink supplying portions (142bC, 142bM, 142bY) (Figures 20 and 24-25); and
- wherein the recording apparatus is an ink jet recording apparatus (Figure 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2861

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior arts are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 4-5 are rejected under 35 USC 103 (a) as being unpatentable over by Miyazawa et al (US Pat. 6,955,422) in view of Inoue et al. (US Pat. 5,619,237).

Miyazawa et al. disclose in Figures 1A, 5-6B and 13-14 an ink cartridge for supplying ink to a printhead comprising:

- a recording apparatus having a recording head (101) configured to discharge ink (Figure 6A);
- an ink cartridge (1) detachably attached to said recording apparatus, said ink cartridge (1) including an ink container containing ink (Figures 5-6B);
- wherein the first positioning component (104) includes a protrusion and the second positioning component (9) includes a hole adapted to receive said protrusion therein(Figure 6A-6B); and
- wherein the protrusion (104) and the plurality of ink receiving portions (102) have lengths; and wherein said length of said protrusion (104) is longer than said lengths of said plurality of ink receiving portions (102) (Figures 6A-6B).

However, Miyazawa et al. do not disclose said recording head including a plurality of ink receiving portions and said ink cartridge including a plurality of ink supplying portions being adapted to receive said complementary plurality of ink receiving portions.

Nevertheless, Inoue et al. disclose in Figures 1, 20 and 24-25 a replaceable ink tank comprising:

- a recording apparatus having a recording head (101) configured to discharge ink, said recording head (101) including an ink storage chamber storing ink therein and a plurality of ink receiving portions (unmarked ports are adjacent to element 165 of printhead cartridge 101) in communication with said ink storage chamber (Figure 20); and

Art Unit: 2861

- an ink cartridge (140) detachably attached to said recording apparatus, said ink cartridge including an ink container containing ink therein and a plurality of ink supplying portions (142bC, 142bM, 142bY) complementary to said plurality of ink receiving portions, said plurality of ink supplying portions being in communication with said ink container (Figures 20 and 25).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the teaching of Inoue et al. in the Miyazawa et al. ink jet cartridge for the purpose of providing an ink cartridge unit including different color inks with ink supply ports for an ink jet color printer.

Claims 1 and 6-7 are rejected under 35 USC 103 (a) as being unpatentable over by Uchikata et al (US Pat. 5,534,899) in view of Inoue et al. (US Pat. 5,619,237).

Uchikata et al. disclose in Figures 27-28 an ink tank for supplying ink to a recording head comprising:

- a recording apparatus having a recording head (1010b) configured to discharge ink (Figure 27); an ink cartridge (1001b) detachably attached to said recording apparatus, said ink cartridge (1001b) including an ink container containing ink (Figure 27);
- wherein the second positioning component (1005b) includes a protrusion and the first positioning component (1015b-1) includes a hole adapted to receive said protrusion therein (Figures (27-28); and
- wherein the protrusion (1005b) and the plurality of ink receiving portions 1008b) have lengths, and wherein said length of said protrusion (1005b) is longer than said lengths of said plurality of ink receiving portions (1008b).

However, Uchikata et al. do not disclose said recording head including a plurality of ink receiving portions and said ink cartridge including a plurality of ink supplying portions being adapted to receive said complementary plurality of ink receiving portions.

Nevertheless, Inoue et al. discloses in Figures 1, 20 and 24-25 an replaceable ink tank comprising:

- a recording apparatus having a recording head (101) configured to discharge ink, said recording head (101) including an ink storage chamber storing ink therein and a plurality of ink receiving portions (unmarked ports are adjacent to element 165 of printhead cartridge 101) in communication with said ink storage chamber (Figure 20); and
- an ink cartridge (140) detachably attached to said recording apparatus, said ink cartridge including an ink container containing ink therein and a plurality of ink supplying portions (142bC, 142bM, 142bY) complementary to said plurality of ink receiving portions, said plurality of ink supplying portions being in communication with said ink container (Figures 20 and 25).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the teaching of Inoue et al. in the Uchikata et al. ink jet cartridge for the purpose of providing an ink cartridge unit including different color inks with ink supply ports for an ink jet color printer.

Claims 1 and 9 are rejected under 35 USC 103 (a) as being unpatentable over by Uzita et al (US Pat. 5,221,935) in view of Inoue et al. (US Pat. 5,619,237).

Uzita discloses in Figures 5, 8 and 10 a waste ink receiving cartridge detachable from an ink recording apparatus comprising:

- a recording apparatus having a recording head (26) configured to discharge ink (Figure 8); an ink cartridge (3) detachably attached to said recording apparatus, said ink cartridge (3) including an ink container containing ink (4) (Figures 5 and 8); and
- wherein the second positioning component (24) includes a protrusion and the first positioning component (242) includes a hole adapted to receive said protrusion therein (Figure 5); and the ink cartridge (2) includes a waste ink container (2) in communication with the second positioning component (24) (Figures 5 and 10).

However, Uzita et al. do not disclose said recording head including a plurality of ink receiving portions and said ink cartridge including a plurality of ink supplying portions being adapted to receive said complementary plurality of ink receiving portions.

Nevertheless, Inoue et al. disclose in Figures 1, 20 and 24-25 a replaceable ink tank comprising:

- a recording apparatus having a recording head (101) configured to discharge ink, said recording head (101) including an ink storage chamber storing ink therein and a plurality of ink receiving portions (unmarked ports are adjacent to element 165 of printhead cartridge 101) in communication with said ink storage chamber (Figure 20); and
- an ink cartridge (140) detachably attached to said recording apparatus, said ink cartridge including an ink container containing ink therein and a plurality of ink supplying portions (142bC, 142bM, 142bY) complementary to said plurality of ink receiving portions, said plurality of ink supplying portions being in communication with said ink container (Figures 20 and 25).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the teaching of Inoue et al. in the Uzita ink jet cartridge for the purpose of providing an ink cartridge unit including different color inks with ink supply ports for an ink jet color printer.

Citation of Pertinent Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. These prior art references (US Pat. 6,102,533; US Pat. 6,929,356; JP Pat. 9267487) cited in the PTO 892 form show an ink jet printer that is deemed to be relevant to the present invention. These references should be reviewed.

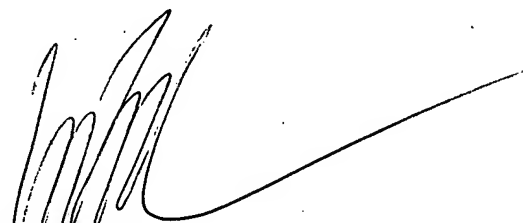
Allowable Subject Matter.

Claim 3 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. This claim would be allowable because none of the prior art references of record discloses an ink supply system comprising first positioning component that is disposed between a pair of the plurality of ink receiving portions of a recording head and a second positioning component is disposed between a complementary pair of the plurality of ink supplying portions of an ink cartridge in the combination as claimed.

Claims 10-13 would be allowable. These claims would be allowable because none of the prior art references of record an ink cartridge for supplying ink to a recording apparatus having a recording head configured to discharge ink, the recording head including an ink storage chamber storing ink therein, a plurality of ink receiving portions communicating with the ink storage chamber and a protrusion defined between a pair of adjacent ink receiving portions, said ink cartridge comprising an engagement portion that is provided between a pair of adjacent ink supply portions corresponding to the pair of adjacent ink receiving portions, wherein the engagement portion is capable of engaging the protrusion so as to align the plurality of ink supply portions with the corresponding plurality of ink receiving portions in the combination as claimed.

CONCLUSION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Anh Vo whose telephone number is (571) 272-2262. The examiner can normally be reached on Tuesday to Friday from 9:00 A.M. to 7:00 P.M.. The fax number of this Group 2861 is (571) 273-8300.


ANH T.N. VO
PRIMARY EXAMINER
April 30, 2006